

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 16515.145	<b>FOR FURTHER ACTION</b>	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/US02/14445	International filing date ( <i>day/month/year</i> ) 09 May 2002 (09.05.2002)	(Earliest) Priority Date ( <i>day/month/year</i> ) 09 May 2001 (09.05.2001)
Applicant RENESEN LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the Report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☒ Certain claims were found unsearchable (See Box I).

3. ☒ Unity of invention is lacking (See Box II).

4. With regard to the title,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the abstract,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No. \_\_\_\_\_



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/14445

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claim Nos.: 1-11, 13, 14 and 25-42  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
The claims were unsearchable because of errors in the CFR namely SEQ ID NO:3 and 4 were improperly named in the organism subfield <213> as artificial construct. The only valid <213> responses are Unknown, Artificial Sequence, or the Genus/species name.
3. ☐ Claim Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:  
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 12, 15-24

Remark on Protest

☐  
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

PCT/US02/14445

### **Box I Observations where certain claims were found unsearchable 1. because they relate to subject matter not required to be searched by this Authority, namely:**

The claims were unsearchable because of errors in the CRF namely SEQ ID NO: 3 and 4 were improperly named in the organism subfield <213> as artificial construct. The only valid <213> responses are Unknown, Artificial Sequence, or the Genus/species name.

### **BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING**

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 12, 15-24, drawn to a method of increasing the tocopherol level in seeds of a plant transformed with an adenylate transporter from Arabidopsis and plants thereof.

Group II, claim(s) 43-46, drawn to a transgenic plant comprising an adenylate transporter gene and another expression cassette comprising a gene selected from the group consisting of slr1736, ATPT2, dxs, dxr, GGH, GGPPS, HPPD, MT1, TMT2, GMT, and slr1737.

The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The methods and plants produced thereof Groups I-II differ from one another with respect to their composition. Moreover, there is no special technical feature linking Groups I-II because the technical feature, an adenylate transporter gene, is taught in the art. Tjaden J. et al., (The Plant Journal, 1998, Vol. 16, No. 5; pages 531-540), teach an ATP/ADP transporter, AATP1 cDNA from Arabidopsis, expressed in the tubers of transformed potato.

### **Continuation of B. FIELDS SEARCHED Item 3:**

WEST

STN: agricola biosis embase caplus

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:  
DAVID R. MARSH  
FULLBRIGHT & JAWORSKI L.L.P.  
600 CONGRESS AVENUE, SUITE 2400  
AUSTIN, TX 78701

## PCT

### NOTIFICATION OF DECISION ON PROTEST

(PCT Rule 40.2(c) and (e) and  
Administrative Instructions, Section 502)

Date of Mailing  
(day/month/year)

30 OCT 2003

Applicant's or agent's file reference

16515.145

IMPORTANT NOTIFICATION

International application No.

PCT/US02/14445

International filing date

(day/month/year) 09 May 2002 (09.05.2002)

Applicant

RENESSEN LLC

The applicant is hereby notified that this International Searching Authority, after having examined the protest on the payment of the additional fee(s), has reached the decision indicated below.

1. ☐ The protest is found justified to the extent that:
- a. ☐ total reimbursement of the additional fee(s) and any protest fee will be made in due course.
  - b. ☐ partial reimbursement in the amount of \_\_\_\_\_ (amount/currency)  
will be made in due course for the following reasons:
2. ☒ The protest is found unjustified and the additional fee(s) will not be refunded for the following reason(s):

#### ATTENTION

The applicant should notify the International Bureau promptly if he wishes a copy of the protest and the decision thereon to be sent to the designated Offices.

A copy of this notification has been sent to the International Bureau.

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Form PCT/ISA/212 (July 1992)

Authorized officer

John Doll

Telephone No. (703) 308-0196

*Cecilia Tsang*

PCT/US02/14445

This is in response to applicants' "Response to Invitation to Pay Additional Fees" filed 27 May 2003. The delay is regretted.

Applicants paid no additional fee for any additional search. According to PCT Rule 40.2 (c), the payment of any additional fee may be made under Protest. Since no additional fee paid, the Protest is dismissed.

Group I, Claims 12 and 15-24 are being searched.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/14445

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A01H 1/00, 5/00; C12/N 15/29, 15/82

US CL : 800/278, 298; 536/23.1, 23.2, 23.6

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 800/278, 298; 536/23.1, 23.6

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Continuation Sheet

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	TJADEN, T. et al. Altered plastidic ATP/ADP-transporter activity influences potato ( <i>Solanum tuberosum</i> L.) tuber morphology, yield and composition of tuber starch. The Plant Journal. 1998, Vol. 16, No. 5. pages 531-540. See entire document.	12, 15, 21-22
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Y		16-24
Y	CAHOON E.B. et al. Production of Fatty Acid Components of Meadowfoam Oil in Somatic Soybean Embryos. Plant Physiology. September 2000, Vol. 124. pages 243-251. See entire document.	19, 23-24
Y	SHEWMAKER C.K. et al. Seed-specific overexpression of phytoene synthase: increase in carotenoids and other metabolic effects. The Plant Journal. 1999, Vol. 20. No. 4, pages 401-412. See entire document.	17-18, 20-24
Y	SHINTANI D. et al. Elevating the Vitamin E Content of Plants Through Metabolic Engineering. Science. 11 December 1998, Vol. 282, pages 2098-2100. See entire document.	15, 20, 23



Further documents are listed in the continuation of Box C.



See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

14 June 2003 (14.06.2003)

Date of mailing of the international search report

30 OCT 2003

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
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